

Exhibit 31

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

XR COMMUNICATIONS, LLC, dba
VIVATO TECHNOLOGIES,

Plaintiff,

v.

AT&T SERVICES INC., et al,

Defendants,

ERICSSON INC. and
NOKIA OF AMERICA CORPORATION,

Intervenors.

Case No. 2:23-cv-00202-JRG-RSP
(Lead Case)

XR COMMUNICATIONS, LLC, dba
VIVATO TECHNOLOGIES,

Plaintiff,

v.

VERIZON COMMUNICATIONS INC.,
CELLCO PARTNERSHIP dba VERIZON
WIRELESS,

Defendants,

ERICSSON INC. and
NOKIA OF AMERICA CORPORATION,

Intervenors.

Case No. 2:23-cv-00470-JRG-RSP

**AT&T DEFENDANTS' SIXTH SUPPLEMENTAL RESPONSES AND OBJECTIONS TO
PLAINTIFF'S FIRST SET OF COMMON INTERROGATORIES (Nos. 1-11 (now 15))**

Pursuant to Rules 26 and 33 of the Federal Rules of Civil Procedure, Defendants AT&T Services, Inc., AT&T Mobility LLC and AT&T Corp. ("AT&T Defendants"), through their undersigned attorneys, Duane Morris, LLP, hereby supplement certain of their responses and objections to Plaintiff XR Communications LLC dba Vivato Technologies' ("XR" or "Plaintiff") First Set of Common Interrogatories (Nos. 1-11). Further, in light of the recent consolidation (Dkt.

In contrast to Adams, in one aspect of claim 1, each of the "antenna arrays" comprises a "beamformer configured to produce **n** different bi-directional beams" connected to "**n** multiple-input multiple-output (MIMO) transceivers." For example, if each of the antenna arrays has 3 beams, there will be 3 MIMO transceivers. However, FIG. 6 of Adams conflicts with claim 1 by disclosing *3 beams*, 1 for each array (7a, 7b, 7c) and *1 MIMO transceiver* 17. FIG. 7 of Adams conflicts with claim 1 by disclosing *6 beams*, 2 (one for each of two polarizations) for each of the 3 antenna arrays (7a, 7b, 7c) and *1 MIMO transceiver* 17. Adams at FIG.s 3, 5, and 8 show standard transceivers and not MIMO transceivers. **Thus, nowhere does Adams describe an implementation where the number of beams per antenna array is equal to the number of MIMO transceivers.** As such, Adams fails to disclose the claim 1 "a beamformer configured to produce **n** different bi-directional beams using the plurality of antenna elements; and **n** multiple-input multiple-output transceivers."

Moreover, claim 1 requires each of the MIMO receivers is "configured to accept **m** received signals", each MIMO transmitter "is configured to provide **m** transmit signals," associated with the **m** arrays. For example, claim 1 requires that for 3 arrays, there must be 3 receive inputs and 3 transmit outputs for each MIMO transceiver. However, Adams at FIG. 6 conflicts with claim 1 by disclosing *3 arrays* connected to a MIMO transceiver with *2 inputs and 2 outputs*. Adams at FIG. 7 conflicts with claim 1 by disclosing *3 arrays* connected to a MIMO transceiver with *2 inputs and 2 outputs*. **Thus, nowhere does Adams describe an implementation where the number of inputs/outputs per MIMO transceiver is equal to the number of antenna arrays.** As such, Adams fails to disclose the claim 1 "**m** antenna arrays" and "a MIMO receiver configured to process **m** different received signals" and "a MIMO transmitter configured to process **m** different transmit signals."

2013-03-25 Response to Final Action, at 10-11 (emphasis in original). These arguments were a reiteration of previous arguments made in the REPLY TO NON-FINAL OFFICE filed on 2012-09-21 by the Applicant. Thus, XR is estopped from arguing (either for literal infringement or DOE) that

any arrangement in which there is, for example, the number of beams generated by each antenna array is different from the total number of MIMO transceivers (e.g., the component that performs MIMO processing). So, for example, Adams disclosed Figures 6, 7 and 16 (along with their descriptions) with various configurations of arrays, beams and a single MIMO transceiver component. The applicant argued (successfully) that such configurations did not meet the claims. XR is therefore estopped from asserting infringement (whether literal or DOE) by such configurations.

Third Supplemental Response to Common Interrogatory No. 3 (April 4, 2025):

AT&T incorporates by reference its previous objections and responses to this Interrogatory, and further responds as follows:

AT&T incorporates by reference Ericsson's and Nokia's responses and objections to discovery requests, produced documents, and relevant deposition testimony and exhibits related to the topic(s) addressed in this Interrogatory. AT&T also incorporates by reference the deposition testimony and exhibits of its witnesses and responses and objections to other Interrogatories related to the topic(s) addressed in this Interrogatory.

Common Interrogatory No. 4:

Aside from the contentions in your responses to Common Interrogatory No. 3, explain in detail (and on a patent-by-patent basis) all factual and legal bases for any affirmative defense that you assert applies in this action, including but not limited to those asserted in your Answer, identify all documents supporting your contentions, and identify all persons with knowledge of any facts relied on by you in making such contentions.

Response To Common Interrogatory No. 4:

AT&T Defendants object to this Interrogatory in accordance with the General Objections set forth above, which are incorporated in full herein. AT&T Defendants further object to this Interrogatory to the extent it seeks information not relevant to any present claim or defense in this case, not proportional to the needs of this case, and not reasonably calculated to lead to the discovery of admissible evidence pursuant to Fed. R. Civ. P. 26. AT&T Defendants further object to this Interrogatory to the extent it seeks information protected from disclosure by the joint defense

privilege, attorney-client privilege, attorney work product doctrine, common interest privilege, or any other applicable privilege, immunity, or protection. AT&T Defendants also object to the phrase “all persons with knowledge” as vague, overbroad, and unduly burdensome. AT&T Defendants further object to this Interrogatory because it seeks information not within AT&T Defendants’ possession, custody, or control, or equally available to XR.

AT&T Defendants further object to this Interrogatory as containing multiple discrete sub-parts, each of which constitutes its own Interrogatory under the limits imposed by the Discovery Order. Specifically, this Interrogatory seeks information relating to each of the affirmative defenses, and a response regarding a single affirmative defense can be answered fully and completely without answering an unrelated question regarding a separate and discrete affirmative defense. Moreover, counting each response regarding each affirmative defense as a separate Interrogatory does not impugn the pragmatic approach that may be taken when counting interrogatories. *See Erfindergemeinschaft Uropep GbR v. Eli Lilly and Co.*, 315 F.R.D. 191, 196-197 (E.D. Tex. 2016) (“In the Court’s view, the ‘related question’ approach, combined with an eye toward the pragmatic considerations, provides the best vehicle for remaining faithful to the policies intended to be served by the numerical limitation in Rule 33(a)(1).”). AT&T Defendants object to this Interrogatory to the extent it calls for legal opinions or conclusions. In particular, this Court does not permit early disclosure of expert opinions via interrogatory. *See Maxell Ltd. v. Apple Inc.*, No. 5:19-CV-00036-RWS, 2019 U.S. Dist. LEXIS 227278, at *7 (E.D. Tex. Nov. 13, 2019) (citing *Promethean Insulation Tech. LLC v. Sealed Air Corp.*, No. 2:13-cv- 1113-JRG-RSP, 2015 WL 11027038, at *2 (E.D. Tex. Oct. 13, 2015)).

Subject to and without waiving the foregoing objections, AT&T Defendants respond as follows:

In its Answer, AT&T Defendants identified numerous “Defenses,” not all of which are

affirmative defenses. AT&T Defendants' response, therefore, is limited to those Defenses for which it understands it bears the burden of proof at trial. AT&T Defendants incorporate by reference the objections and responses provided by the applicable Intervenor, including any documents cited or produced, because they are in a better position to provide a complete response. AT&T Defendants also respond that its affirmative defenses are supported by the pleadings, written specification and claims of the Asserted Patents, the file histories of the Asserted Patents, public assignment records associated with the Asserted Patents as recorded at the USPTO, Defendants' invalidity contentions, any depositions of the Asserted Patents' inventors, any depositions of XR's and the Intervenor's 30(b)(6) witnesses, and documents presumed to be in the possession and control of XR and the Intervenor.

Supplemental Response to Interrogatory No. 4 (February 14, 2025):

AT&T's fourth defense asserts prosecution history estoppel. Plaintiff's claims, including its ability to assert infringement under the doctrine of equivalents, are barred in whole or in part by the doctrines of prosecution history estoppel because of admissions, amendments, arguments, and/or representations made to the U.S. Patent and Trademark Office ("PTO") during proceedings relating to the Asserted Patents. Such amendments and arguments leading to prosecution history estoppel are detailed above for Interrogatory No. 3 and incorporate by reference herein.

Common Interrogatory No. 4 – Second Defense (Invalidity)

Subject to and without waiving the foregoing objections, AT&T Defendants respond as follows:

AT&T Defendants incorporate by reference, as if set forth herein in full, Defendants' P.R. 3-3 and 3-4 Disclosures, as served on October 12, 2023, and as may be supplemented. AT&T Defendants further identify any expert report served in support of its invalidity positions, as well as the testimony of any prior art inventors.

**Supplemental Response To Common Interrogatory No. 4 – Second Defense (Invalidity)
(December 20, 2024):**

AT&T incorporates by reference its previous objections and responses to this Interrogatory, and further responds as follows: AT&T incorporates by reference, as if set forth herein in full, all of the documents filed in any *Inter Partes* Proceedings on the asserted patents. AT&T further incorporates by reference, as if fully set forth in, Defendants' P.R. 3-3- and 3-4 Disclosures, as served on October 12, 2023 in Case No. 2:23-cv-00202-JRG-RSP and on February 29, 2024, in Case No. 2:23-cv-00468, its responses and objections to Common Interrogatory No. 3. Further, as noted above, AT&T intends for its responses and objections to apply to all Asserted Patents (U.S. Patent Nos. 8,289,939, 8,737,511, 10,715,235, 7,177,369, 11,750,256, and 11,777,569), where relevant unless otherwise noted.

Common Interrogatory No. 5 – Third Defense (Notice, Damages, and Costs)

Subject to and without waiving the foregoing objections in Interrogatory No. 4, AT&T Defendants respond as follows:

Pursuant to *Arctic Cat Inc. v. Bombardier Recreational Products Inc.*, 876 F.3d 1350, 1366 (Fed. Cir. 2017), “[t]he patentee bears the burden of pleading and proving he complied with § 287(a)’s marking requirement” and thus “Section 287 is ... a limitation on damages, and not an affirmative defense.” Nevertheless, AT&T Defendants recognize, however, that because it challenges the patentee’s compliance with § 287, it “bears an initial burden of production to articulate the products it believes are unmarked ‘patented articles’ subject to § 287.” *Id.* at 1368. To meet this “low bar”, AT&T Defendants hereby provide notice to Plaintiff that it or its authorized licensees sold the following unmarked products that plaintiff has contended practice one or more of the Patents-in-Suit and now are the subject of a license to the asserted patents:

- **U.S. Patent No. 10,594,376**
 - D-Link DIR-X1560, DIR-X1860, DIR-X1870, DIR-X4860, DIR-X5460, DIR-X6060, DIR-LX1870, DBA-X2830P, DBA-X1230P, DAP-X1860, DAP-X1870, DAP-X2810, DAPX2850, DWL-X8630AP, COVR-X1874,

COVR-X1873, COVR-X1872, COVRX1870, COVR-X1870 Series, COVR-X1860 Series, COVR-X1860, COVR-X1862, COVR-X1863, COVR-X1864, D-Link AI M32), as well as access points and routers supporting MU-MIMO that utilize the IEEE 802.11ac standard (e.g., DIR-822, DIR842, DIR-853, DIR-867, DIR-868L, DIR-878, DIR-882, DIR-885L, DIR-895L, DIR-1260, DIR-1360, DIR-1750, DIR-1760, DIR-1950, DIR-1960, DIR-2150, DIR-2640, DIR-2660, DIR-2680, DIR-3040, DIR-3060, DIR-L1900, DBA-1210P, DBA-1510P, DBA-1520P, DBA-2520P, DBA-2620P, DBA-270P, DBA-2820P, DBA3620P, DBA-3612P, DAP-1755, DAP-1820, DAP-1860, DAP-1955, DAP2610, DAP-2620, DAP-2622, DAP-2662, DAP-2680, DAP-2682, DAP-2695, DAP2720, DAP-3666, DWL-6620APS, DWL-6720AP, DWL-7620AP, DWL-8620AP, DWL-8620APE, DWL-8720AP, DVG-5402G, DSL-3785, DSL-5300, COVR 1100, COVR-1102, COVR-1103, COVR-C1202, COVR-C1203, COVR-C1210, COVR-C1213, COVR-1300E, COVR-2200, COVR-2202, COVR-2203, COVR2600R, COVR-3902, COVR-P2500, and COVR-P2502. *See XR Communications, LLC, d/b/a Vivato Technologies v. D-Link Systems, Inc.*, 8:21-cv-01063 (C.D. Cal. 2021); Dkt. 1 at 25-26.

- Cisco Catalyst 9100 Series and Catalyst 9800 Series products, including Cisco Catalyst 9100, 9105w, 9105i, 9115, 9117, 9120, 9124, 9130 models, Cisco Catalyst 9800, 9800-L, 9800-CL, 9800-30, 9800-80, 9800 Embedded Wireless on Switch, 9800 Embedded Wireless on Access Point models, and Cisco Meraki MR36, MR44, MR45, MR46, MR46E, MR55, MR56, MR76, MR86 models) and access points and routers supporting MU-MIMO utilizing the IEEE 802.11ac-2013 standard (Defendant's Aironet 1562I, Aironet 1562E, Aironet 1562D, Aironet 1810, Aironet 1810W, Aironet 1815I, Aironet 1830I, Aironet 1850I, Aironet 1850E, Aironet 3800I, Aironet 3800E, Aironet 3800P, Aironet 2800I, Aironet 2800E, MR30H, MR33, MR42, MR52, MR53, MR74, MR84, Aironet 1852E, Aironet 1852I, Aironet 1832I, Aironet 1810W, Aironet 2802I, Aironet 2802E, Aironet 3802I, Aironet 3802E, Cisco Aironet 4800 Series Access Points, Cisco Aironet 3800 Series Access Points, Cisco Aironet 2800 Series Access Points, and Cisco 8540 Wireless Controller. *See XR Communications, LLC, d/b/a Vivato Technologies v. Cisco Systems, Inc.*, 6:21-cv-00623 (C.D. Cal. 2021); Dkt. 1 at 31.
- Netgear Nighthawk Series such as Nighthawk Dual-Band WiFi 6 Routers with MU-MIMO including RAX200, RAX120, RAX80, RAX78, RAX75, RAX50, RAX48, RAX50S, RAX45, RAX43, RAX42, RAX40, RAX38, RAX35, RAX20, RAX15, RAX10, LAX20, RAXE500, RAXE450, R6700AX, Archer Series including AX73, AX11000, AX1800 4-Stream, AX1500, Orbi Wi-Fi 6 Series including RBK853, RBK852, RBK842, RBS850, RBR850, RBK854, RBK752, RBK753, RBK753S, RBK754, CBK752, RBX750, Nighthawk Dual-Band WiFi 6 Mesh including MK62, MK63S, MK64, MK83, MS60, MS80, Gaming Series including Nighthawk 6-Stream WiFi 6 Gaming Router XR1000, and business solutions including Orbi Pro WiFi 6 Series including SXX80, SXX30B3, SXR80, SXX80B3, SXX30, SXR30, SXS30, SXS80, SXX80B4 as well as AX3600 Dual band PoE Multi-Gig WiFi 6 Access Point WAX620, AX1800 Dual Band PoE MultiGig Insight Managed WiFi 6 Access Point

WAX610 / WAX610PA, AX1800 Dual Band PoE multi-Gig Insight Managed WiFi 6 Outdoor Access Point WAX610Y, Essentials WiFi 6 AX1800 Dual Band Access Point WAX204, Essentials WiFi 6 AX1800 WAX214 / WAX214PA, WAX218 / WAX218PA, WAX610Y / WAX610PA) as well as access points and routers supporting MU-MIMO that utilize the IEEE 802.11ac standard (e.g., the Orbi Series, including Orbi Pro WiFi 5 SRK60, SRK60B03, SRC60, SRR60, SRS60, SRK60B04, AD7200-Nighthawk AD7200- Nighthawk X10 Smart WiFi Router Model R9000, AC5300-Nighthawk X8 Tri Band WiFi Router Model R8500, AC2600-Nighthawk X4S Smart WiFi Gaming Router Model R7800, AC2350-Nighthawk X4 AC2350 Dual Band WiFi Router Model R7500, AC2300-Nighthawk Smart WiFi Router with MU-MIMO Model R7000P, AC5000-Nighthawk X8 Smart WiFi Router Model R8300, AC1900-WiFi Range Extender - Essentials Edition Model EX6400, AC2200-Nighthawk X4 WiFi Range Extender Model EX7300, AC1200-Dual Band WiFi Range Extender Model EX6200, AC1200-WiFi Range Extender Model EX6150, AC WiFi Business Access Point Model WAC510, ProSAFE 4 x 4 Wave 2 Wireless-AC Model WAC740, AC4000-Nighthawk X6S Tri-Band WiFi Router With MU-MIMO Model R8000P, AD7000-Nighthawk X10 Smart WiFi Router Model R8900,

AC3000-Nighthawk X6S Smart WiFi Router with MU-MIMO Model R7900P, and AC1900-Nighthawk Smart WiFi Router with MU-MIMO Model R6900P, AC1750 Gaming Router XR300, AC2600 Gaming Router XR500, AC2600 Gaming Router XRM570, AC4000 WiFi Router R8000P, AC3200 WiFi Router R8000, AC1900 WiFi Router R8000, R6700, R6400, R6350, R6330, R6850, R7850. *See XR Communications, LLC, d/b/a Vivato Technologies v. Netgear, Inc.*, 8:21-cv-01064 (C.D. Cal. 2021); Dkt. 1 at 28-29.

- Samsung SmartThings Wifi System. *See XR Communications, LLC, d/b/a Vivato Technologies v. Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.*, 6:21-cv-00626 (W.D. Tex. 2021); Dkt. 1 at 9.

- **U.S. Patent No. 8,289,939**

- Cisco Catalyst 9100 Series Access Points, including Cisco Catalyst 9120, 9124, 9130 models including embedded wireless controller functionality, Cisco Catalyst 9800 Series Wireless Controllers, including 9800-L, 9800-CL, 9800-40, 9800-80, 9800 Embedded Wireless on Switch, 9800 Embedded Wireless on AP, Cisco Meraki Series supporting Meraki Auto RF and/or Auto Channel, including, e.g., MR36, MR44, MR46, MR46E, MR45, MR55, MR56, MR76, MR84, MR86, Aironet 3800I, Aironet 3800E, Aironet 3800P, Aironet 2800I, Aironet 2800E, MR30H, MR33, MR42, MR42E, MR52, MR53, MR53E, MR74, MR84, Cisco Aironet 4800 Series Access Points, Cisco Aironet 3800 Series Access Points, Cisco Aironet 2800 Series Access Points, and Cisco 8540 Wireless Controller. *See XR Communications, LLC, d/b/a Vivato Technologies v. Cisco Systems, Inc.*, 6:21-cv-00623 (C.D. Cal. 2021); Dkt. 1 at 64.
- Netgear WAC500 Series (And Above) Access Points, Orbi Pro Router and Satellites, Orbi Pro WiFi 6 including including RBK853, RBK852,

RBK842, RBS850, RBR850, RBK854, RBK752, RBK753, RBK753S, RBK754, CBK752, RBX750, the WAX600 Series Access Points including WAX610, WAX610Y, High Capacity Wireless Controllers including WC9500, WC7600, WB7630, WC7500, and Access Points such as WAC720, WAC730). *See XR Communications, LLC, d/b/a Vivato Technologies v. Netgear, Inc.*, 8:21-cv-01064 (C.D. Cal. 2021); Dkt. 1 at 62.

- **U.S. Patent No. 10,715,235**

- Samsung Galaxy Tab tablet devices, including, but not limited to the Tab S8, Tab S8+, Tab S8 Ultra, and all variations or iterations thereof; Galaxy mobile phone devices, including, but not limited to the S21 FE, S22, S22+, S22 Ultra, S23, S23+, S23 Ultra, Z Fold 4, Z Flip 4, and Samsung TVs, including, but not limited to the QN800B, QN900B. *See XR Communications, LLC, d/b/a Vivato Technologies v. Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.*, 6:23-cv-00125 (W.D. Tex. 2023); Dkt. 1 at 9.
- Samsung Galaxy Book series of devices including, but not limited to the Book, Book S, Book Ion, Book Flex, Book Pro, Book Pro 360 devices, and all variations and iterations thereof; Defendant's Chromebook/Galaxy Chromebook series of devices, including, but not limited to the Plus, Chromebook 2, and Chromebook 4 devices; Defendant's Galaxy tablet devices, including, but not limited to the S7+ 5G, S7+, S7 5G, S7, Active3, and all variations or iterations thereof; Galaxy mobile phone devices, including, but not limited to the S20 Ultra, S21 Ultra, S21+, S21, S20 FE, S10e, S20, S10, S10+, S9+, S9, S20+, Note10, Note20, Note 10+, Note20 Ultra, Note9, Z Fold2, Z Flip, and all variations or iterations thereof; Samsung TVs, including, but not limited to the QN900A, QN800A, Q950TS, Q900TS. *See XR Communications, LLC, d/b/a Vivato Technologies v. Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.*, 6:21-cv-00626 (W.D. Tex. 2021); Dkt. 1 at 25-26.

Common Interrogatory No. 6 – Sixth Defense (License, Implied License, and/or Exhaustion)

Subject to and without waiving the foregoing objections in Interrogatory No. 4, AT&T Defendants respond as follows:

AT&T Defendants incorporate by reference the statements contained in, *e.g.*, 2:23-cv- 00202-JRG-RSP (E.D. Tex.) ECF No. 26, at p. 12, and similar statements contained in the consolidated cases. Likewise, AT&T incorporates its response to Common Interrogatory No. 5. AT&T Defendants' investigation is ongoing, including reviewing licenses produced by XR, and it reserves the right to supplement this response.

First Supplemental Response To Common Interrogatory No. 6 – Sixth Defense (License, Implied License, and/or Exhaustion) (December 20, 2024)

AT&T incorporates by reference its previous objections and responses to this Interrogatory, and further responds as follows: AT&T incorporates by reference, as if set forth herein in full, all of the documents related to any agreements (settlement, licenses, or otherwise) providing rights to the Asserted Patents. These agreements include the agreement between Plaintiff and RPX, in particular the agreements under which Samsung and its products are licensed to the patents including, but not limited to, the Samsung 5G infrastructure equipment provided by Samsung to AT&T and used within AT&T's network. AT&T further responds that all usage of any licensed user equipment (e.g., Apple devices, Samsung devices) should have the value of that licensed usage excluded from any calculation of allegedly infringing units or revenues in this case (including, for example, as part of a royalty base for damages purposes). Further, as noted above, AT&T intends for its responses and objections to apply to all Asserted Patents (U.S. Patent Nos. 8,289,939, 8,737,511, 10,715,235, 7,177,369, 11,750,256, and 11,777,569), where relevant unless otherwise noted.

Second Supplemental Response to Common Interrogatory No. 6 (April 4, 2025):

AT&T incorporates by reference its previous objections and responses to this Interrogatory, and further responds as follows:

AT&T incorporates by reference Ericsson's and Nokia's responses and objections to discovery requests, produced documents, and relevant deposition testimony and exhibits related to the topic(s) addressed in this Interrogatory. AT&T also incorporates by reference the deposition testimony and exhibits of its witnesses and responses and objections to other Interrogatories related to the topic(s) addressed in this Interrogatory.

Common Interrogatory No. 7 – Seventh Defense (Inequitable Conduct)

Subject to and without waiving the foregoing objections in Interrogatory No. 4, AT&T Defendants respond as follows:

AT&T Defendants incorporate by reference the statements contained in, *e.g.*, AT&T Defendants' answer (*see* 2:23-cv-00202-JRG-RSP (E.D. Tex.) ECF No. 26, at pp. 13-16), and similar statements contained in the consolidated cases. AT&T Defendants further incorporate by reference the testimony of the relevant inventors and any corporate testimony by XR regarding its failure to pay the relevant maintenance fees and its statements to revive the applications.

First Supplemental Response To Common Interrogatory No. 7 – Seventh Defense (Inequitable Conduct) (December 20, 2024):

AT&T incorporates by reference its previous objections and responses to this Interrogatory, and further responds as follows: In 2003, Vivato, Inc. filed the patent applications that eventually (directly or through a chain of continuations) led to issuance of the asserted patents. In 2006, Mr. Gary Haycox purchased Vivato, Inc.'s patent portfolio, including the patent applications that resulted in the asserted patents, and eventually assigned the portfolio to Vivato Networks, Inc. ("Vivato Networks"). Mr. Haycox was the CEO of Vivato Networks. *Id.* In fall of 2006, Mr. Haycox retained Mr. Edward Brooks, a registered patent attorney, to prosecute the patent portfolio.

In fall of 2007, Vivato Networks agreed to a loan of \$1,000,000 from Aequis Capital Management ("Aequis Capital") secured by the patent portfolio. Later that year, Vivato Networks merged with Catcher Holdings, Inc. ("Catcher") and also transferred the patent portfolio to Vivato Networks Holdings Inc. ("Vivato Holdings") subject to a first priority lien by Aequis Capital. Vivato Holdings also granted an exclusive license to Catcher and an exclusive right to prosecute and maintain the portfolio during the term of the license. Mr. Haycox eventually became the CEO of Catcher. Mr. Brooks continued to prosecute and maintain the portfolio. By virtue of its loan to Catcher, Aequis Capital through its manager, Mr. Thomas Sidley, controlled all disbursements by Catcher. Starting in Q4 of 2007 and into Q1 2008, Mr. Brooks repeatedly sought payment of his pending invoices for his services for prosecuting the patent portfolio. Mr. Sidley decided to not fund the prosecution and did not reimburse Mr. Brooks even though Catcher and Aequis Capital had

sufficient funds to do so. Mr. Brooks eventually withdrew as the attorney of record at the Patent Office in late April 2008, and several applications inevitably became abandoned. In April 2008, Catcher Holdings ceased operations and Aequitas Equipment Finance, LLC (“Aequitas Finance”), assignee of Aequitas Capital’s right to the portfolio, began foreclosure proceeding regarding the portfolio in June 2008.

Over a year later, in May 2009, Mr. Schwedler filed a power of attorney with the Patent Office, and in June of 2009, Aequitas Equipment took title to the patent portfolio in a sheriff’s sale. In fall of 2009, Mr. Schwedler (attorney for Aequitas Equipment and Aequitas Capital) filed petitions to revive the abandoned applications certifying that the abandonment of the ’860, ’324, and ’329 applications was unintentional. In December of 2009, Aequitas Equipment sold the patent portfolio to XR. In 2010, Mr. Burke (attorney for XR) also filed petitions to revive the ’329 application certifying that the abandonment was unintentional.

Catcher and Aequitas Capital made a deliberate decision in Q1 2008 to not fund the prosecution when it chose not to reimburse Mr. Brooks leading to eventual abandonment of the applications. Thus, Mr. Schwedler’s and Mr. Burke’s certifications to the Patent Office were demonstrably false. Further, not only were the applications not abandoned unintentionally, Mr. Schwedler and Mr. Burke did not perform any verifiable investigation, and undisputedly did not investigate, the facts surrounding the abandonments. Had either of them conducted the required investigation, they would have uncovered that the applications were deliberately abandoned when Catcher and Aequitas Capital did not reimburse Mr. Brooks.

The single most reasonable inference from the evidence is that both Mr. Schwedler and Mr. Burke had an intent to deceive the Patent Office. By virtue of Mr. Schwedler’s work with Aequitas Capital in 2007 when he filed the security agreement with the Patent Office on behalf of Aequitas Capital, Mr. Schwedler knew that Aequitas Capital had a lien on the portfolio, and he knew in 2009

that there had been a foreclosure, but he chose to not investigate into the circumstances that caused the abandonment. Similarly, Mr. Burke was also aware of abandoned applications based on his work the Patent Purchase Agreement between Aequis and XR and his review of the file histories. As experienced registered patent attorneys, both knew that, under the Patent Office rules, an application is deliberately abandoned when an applicant knowingly chooses to not incur prosecution expense resulting in abandonment of pending applications. Both Mr. Schwedler and Mr. Burke chose to remain willfully ignorant of the circumstances that led to the abandonments and chose to ignore warnings from the Patent Office that further investigation was warranted based on their lack of personal knowledge. In light of these circumstances, the only plausible inference is that both Mr. Schwedler and Mr. Burke intended to deceive the Patent Office so that the applications could be revived.

The above facts, along with the facts recited in the Answer and any additional to-be-discovered facts, support a finding of inequitable conduct. Both the Patent Office and Federal Circuit have repeatedly held that patent applications become abandoned due to failure to pay attorneys' fees and necessary costs of prosecution are considered intentional abandonments. *See, e.g., Lumenyte Int'l Corp. v. Cable Lite Corp.*, 92 F.3d 1206, at *4 (Fed. Cir. 1996) (finding patent applications intentionally abandoned where evidence showed, *inter alia*, that applicant said he did not want to spend additional money prosecuting the patent) (cited in MPEP); *In re Appl'n of Cheol Kim*, 2009 WL 1212054, at *3 (P.T.O. Apr. 1, 2009) (finding delay not unintentional where applicant "gave up" application because he could not afford to pay prosecuting attorney). Here, Mr. Brooks withdrew as the attorney prosecuting the patent applications because he had not been paid for his services for nearly a year. And Vivato Networks (which merged with Catcher, who controlled prosecution of the applications) did not lack funds—it had received a \$1 million loan from Aequis Capital and could therefore pay its attorneys' fees—a loan secured by a patent portfolio containing the applications.

Under the Security Agreement between Catcher and Aequis Capital, Aequis Capital had

the right to expend funds to protect the collateral. The Security Agreement also provided that in the event of default, Aequis Capital had the right to take possession of the collateral. Aequis Equipment, in May 2009, apparently exercising that right, appointed Mr. Schwedler as prosecution counsel even before it obtained legal possession of the portfolio. Yet from the time Mr. Brooks withdrew in April 2008 and until May 2009 when it appointed Mr. Schwedler, neither Aequis Capital nor Aequis Equipment took any steps to protect the portfolio or its interest in it. The Aequis entities, through their manager, Mr. Sidley, first deliberately abandoned the applications when they decided to not reimburse Mr. Brooks but turned around about a year later and initiated prosecution on the same portfolio through Mr. Schwedler even before they had obtained title to that portfolio. Under these circumstances, Catcher and Aequis Capital's decision to not reimburse Mr. Brooks for his services was a deliberate decision to not act on the pending applications, which could not constitute an "unintentional" abandonment under controlling law. This was indisputably the law at the time of the abandonments and has remained so. *See Lumenyte*, 92 F.3d 1206, at *4; *Cheol Kim*, 2009 WL 1212054, at *3.

Moreover, Aequis Capital and Catcher deliberately allowed the applications to become abandoned. Thus, Mr. Schwedler and Mr. Burke "could not have truthfully certified" to the Patent Office that the entire periods of delay were unintentional. *3D Med. Imaging Sys., LLC v. Visage Imaging, Inc.*, 228 F. Supp. 3d 1331, 1337 (N.D. Ga. 2017). Their certifications were thus material misrepresentations as a matter of law. *Id.*; *see also Lumenyte*, 92 F.3d 1206, at *4. Further, by signing the petitions to revive, Mr. Schwedler and Mr. Burke also represented that they had knowledge of facts sufficient to support their belief that the applications were abandoned unintentionally. These were also material misrepresentations as a matter of law. The facts illustrate that neither Mr. Schwedler nor Mr. Burke ever conducted any verifiable investigation before certifying to the Patent Office that the abandonments were unintentional. Their statements to the Patent Office that the entire

period of delay was “unintentional” were thus misrepresentations as a matter of law. *See, e.g., 3D Med.*, 228 F. Supp. 3d at 1337; *see also Lumenyte*, 92 F.3d 1206, at *4.

These misrepresentations were material. A misrepresentation or omission is material if, but for the misrepresentation or omission, the Patent Office would not have granted the patent. *See Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1291–93 (Fed. Cir. 2011). Mr. Schwedler’s and Mr. Burke’s representations in filing the petitions to revive the abandoned applications were indisputably material, because the Patent Office would not have revived the abandoned patent applications but for their representations.

First, a petition to revive an abandoned patent for unintentional delay **must** be accompanied by “[a] statement that the entire delay in filing the required reply from the due date for the reply until the filing of a grantable petition pursuant to this section was unintentional.” 37 C.F.R. § 1.137(b)(4). Thus, absent their statements that the delays were unintentional, the Patent Office would not have revived the patent applications, and the asserted patents would never have issued. 37 C.F.R. § 1.137(b)(4).

Second, by signing and submitting the petitions, Mr. Schwedler and Mr. Burke also represented to the Patent Office that their contentions that the entire delay was unintentional had evidentiary support based on reasonable inquiry. *See* 37 C.F.R. § 11.18(b)(2)(iii). This is especially important because the Office explicitly told Mr. Schwedler and Mr. Burke that it was relying on the statements in their petitions as having been made “as a result of a reasonable inquiry into the facts and circumstances” of the allegedly unintentional delay in granting the petitions. Thus, absent their certifications that they had performed such inquiries and concluded that the delays were unintentional, the Patent Office would not have revived the patent applications, and the asserted patents would never have issued. This satisfies the but-for materiality requirement. *See 3D Med.*, 228 F. Supp. 3d at 1339.

Mr. Schwedler and Mr. Burke each had specific intent to deceive the Office. “[T]o meet the

clear and convincing evidence standard, the specific intent to deceive must be ‘the single most reasonable inference able to be drawn from the evidence.’” *Therasense*, 649 F.3d at 1290 (quoting *Star Sci. Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1366 (Fed. Cir. 2008)). “Because direct evidence of deceptive intent is rare, a district court may infer intent from indirect and circumstantial evidence.” *Id.* Here, the circumstantial evidence permits only a single inference: Mr. Schwedler and Mr. Burke made their misrepresentations with specific intent to deceive the Patent Office.

Mr. Schwedler had specific intent to deceive. *First*, Mr. Schwedler performed no verifiable investigation to determine whether the facts actually supported his sworn representations he made to the Patent Office despite both his duty to do so and explicit directions from the Office to do so. This inaction is even more egregious because the Office explicitly notified Mr. Schwedler that it was relying on the statements in his petitions as having been made “as a result of a reasonable inquiry into the facts and circumstances” of the allegedly unintentional delay. *See generally* XR-EDTX-00090427-90690. *Second*, Mr. Schwedler knew that Aequis Capital was financially involved with the prior assignees at the time the applications were abandoned, but did not investigate this further. *See generally id.* *Third*, Mr. Schwedler had every motivation to submit the petitions to revive without performing an investigation. *See generally id.*

Mr. Burke similarly had specific intent to deceive. *First*, Mr. Burke did not perform a verifiable investigation to determine whether the representation he made was supported by the facts, despite his duty to do so and despite explicit directions from the Office to do so. *See generally* XR-EDTX-00091733-92124. This inaction is extremely inexplicable in light of the fact the Office explicitly warned Mr. Burke that it was relying on the statement in his petition as having been made “as a result of a reasonable inquiry into the facts and circumstances” of the allegedly unintentional delay. *Second*, Mr. Burke was already aware of the abandoned applications based on his work on the Patent Purchase Agreement between Aequis and XR and his review of the file histories. *See*

generally XR-EDTX-00091733-92124. Mr. Burke must have known that certain patent applications had been abandoned and sought to be revived by Aequitas. Yet Mr. Burke did nothing to investigate the circumstances of those abandonments or the adequacy of Aequitas's representations. *Third*, Mr. Burke's actions in filing the renewed petition to revive shows that he at most did the bare minimum based on the paper record and did not perform any verifiable investigation into the relevant facts.

Pursuant to Fed. R. Civ. P. 33(d), AT&T identifies the following documents from which supportive and responsive information may be ascertained: XR-EDTX-000000020; XR-EDTX-00000339; XR-EDTX-00000822; XR-EDTX-00001103; XR-EDTX-00002456; XR-EDTX-00003812; XR-EDTX-00003815; XR-EDTX-00003817; XR-EDTX-00003819; XR-EDTX-00003939; XR-EDTX-00003981; XR-EDTX-00003987; XR-EDTX-00003956; XR-EDTX-00004023; XR-EDTX-00090427-90690; XR-EDTX-00091733-92124.

AT&T's investigation is ongoing, and it reserves the right to further supplement this response.

Common Interrogatory No. 8 – Eighth Defense (Statutory Limitations)

Subject to and without waiving the foregoing objections in Interrogatory No. 4, AT&T Defendants respond as follows:

AT&T Defendants incorporate by reference the statements contained in, *e.g.*, AT&T Defendants' answer (*see* 2:23-cv-00202-JRG-RSP (E.D. Tex.) ECF No. 26, at p. 16), and similar statements contained in the consolidated cases. AT&T Defendants' investigation of the case is ongoing, and AT&T Defendants reserve all rights to supplement as the case proceeds.

Common Interrogatory No. 5 (Now Common Interrogatory No. 9):

Describe any benefits from beamforming techniques (including, without limitation, analog beamforming, digital beamforming, hybrid beamforming, massive MIMO) for 5G cellular networks, including the additional throughput or communications benefits that beamforming techniques add as compared to not using beamforming techniques. Your response should include a detailed description of the benefits from beamforming techniques and related analyses and identify all relevant documents, all persons that possess relevant knowledge, and any facts or evidence that pertains to this issue.

Response To Common Interrogatory No. 5 (9):

AT&T Defendants object to this interrogatory in accordance with the General Objections set forth above, which are incorporated in full herein. AT&T Defendants further object to this Interrogatory as premature, as it calls for information that will be the subject of expert opinion and it seeks expert disclosure before the time contemplated by Fed. R. Civ. P. 26 and the Court's orders in this case. AT&T Defendants further object to this Interrogatory to the extent it seeks information that is not relevant to any present claim or defense in this case, not proportional to the needs of the case, and/or not reasonably calculated to lead to the discovery of admissible evidence pursuant to Fed. R. Civ. P. 26. AT&T Defendants further object to this Interrogatory as overly broad and unduly burdensome to the extent it seeks information regarding products that are not accused of infringement, or aspects of accused products that are unrelated to the functionality accused of infringing the asserted patents. AT&T Defendants further object because of its use of several undefined terms, each of which is vague and ambiguous, *e.g.*, "beamforming techniques", "analog beamforming", "digital beamforming", "hybrid beamforming", "massive MIMO". AT&T Defendants further object to this Interrogatory to the extent it calls for legal opinions or conclusions. In particular, this Court does not permit early disclosure of expert opinions via interrogatory. *See Maxell Ltd. v. Apple Inc.*, No. 5:19-CV- 00036-RWS, 2019 U.S. Dist. LEXIS 227278, at *7 (E.D. Tex. Nov. 13, 2019) (citing *Promethean Insulation Tech. LLC v. Sealed Air Corp.*, No. 2:13-cv-1113-JRG-RSP, 2015 WL 11027038, at *2 (E.D. Tex. Oct. 13, 2015)).

Subject to and without waiving the foregoing General Objections and specific objections, AT&T Defendants respond as follows:

AT&T Defendants incorporate by reference the objections and responses provided by the applicable Intervenor, including any documents cited or produced, because they are in a better position to provide a complete response.

responsive to this Interrogatory may be ascertained. *See, e.g.*, ATT-XR00045949, ATT-XR00045952. AT&T Defendants also incorporate by reference the objections and responses provided by the applicable Intervenor, including any documents cited or produced.

Supplemental Response To Common Interrogatory No. 11 – (Now Common Interrogatory No. 15) (December 20, 2024):

AT&T incorporates by reference its previous objections and responses to this Interrogatory, and further responds as follows: AT&T incorporates by reference, as if set forth herein in full, all of the documents filed in any *Inter Partes* Proceedings on the asserted patents. AT&T also incorporates by reference the third-party subpoenas served in this case. Further, as noted above, AT&T intends for its responses and objections to apply to all Asserted Patents (U.S. Patent Nos. 8,289,939, 8,737,511, 10,715,235, 7,177,369, 11,750,256, and 11,777,569), where relevant unless otherwise noted.

Dated: April 4, 2025

Respectfully submitted,

/s/Matthew S. Yungwirth

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CERTIFICATE OF SERVICE

The undersigned counsel hereby certifies that on April 4, 2025, a true and correct copy of the foregoing was electronically mailed to counsel of record.

/s/ Brianna Vinci
Brianna Vinci